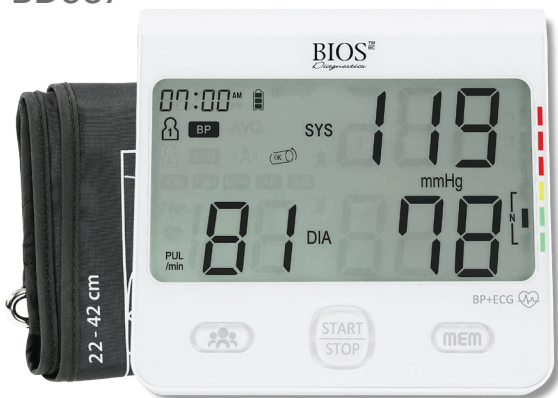


BLOOD PRESSURE MONITOR | ECG

Instruction Manual
Model: BD537



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BIOS VP of Marketing - Mark Beaton accepts the 2017 Hypertension Canada Certificate of Excellence from Angelique Berg, CEO of Hypertension Canada

Trusted by Canadians for 3 Generations

At BIOS Diagnostics™, we are proud of our legacy in blood pressure monitoring in Canada. From the early 1930's to 1987 we manufactured "Tycos" brand professional blood pressure equipment for doctors and hospitals in Canada.

In the 1970's we pioneered the first blood pressure devices for monitoring at home, and in the 1980's we introduced digital technology in Canada. We haven't been counting, but we know that millions of our home-use monitors have been used by Canadians in the last 30 years.

All BIOS Diagnostics™ devices are developed in collaboration with physicians and clinically tested to prove their measurement accuracy. For more information on clinical tests and other BIOS medical products, visit our website at www.biosmedical.com.

If you have questions about this device or blood pressure monitoring at home, email us at support@biosmedical.com or call the BIOS Medical Hotline 1-866-536-2289.

Blood Pressure Monitor - ECG

Instruction Manual

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1. Introduction

Thank you for purchasing the BIOS Diagnostics™ Blood Pressure Monitor - ECG. Designed for convenient and easy operation, this device provides a simple, yet accurate method to measure your blood pressure, and take an ECG measurement.

Your blood pressure and heart rhythm are important parameters that can be used to monitor your health. This device enables you to monitor both regularly, and maintain a record of your measurements. You can then use these records to assist your physician in diagnosing and maintaining healthy levels.

Indications for Use:

The Blood Pressure Monitor – ECG (BD537) is a digital monitor intended for use in measuring blood pressure and pulse rate in the adult population. The device is intended to measure, store, and transfer single-channel electrocardiogram (ECG) rhythms. The device also displays ECG rhythms and detects the presence of atrial fibrillation, bradycardia, tachycardia, and normal sinus rhythm.

Contraindications:

Product is not intended for non-adult use.

1.1 Features

The BD537 uses oscillometric technology to measure the arterial blood pressure and pulse rate. The cuff is wrapped around the upper arm, and automatically inflated by the air pump. The device senses weak fluctuations of the pressure in the cuff produced by extension and contraction of the artery within the arm in response to each heartbeat. The amplitude of the pressure waves is measured, converted in millimeters of the mercury column, and is shown on the display.

The device uses single-channel ECG to measure heart rhythm, and detect the possible presence of irregular heartbeats.

- **Memory Features** 2 users, 150 blood pressure readings, and 20 ECG readings.
- **Blood Pressure & ECG Modes** slide the switch located on the top of the device to alternate between blood pressure and ECG measurements.
- **Inflation Measurement Technology** enables fast and accurate blood pressure measurements during cuff inflation, significantly reducing measurement time and minimizing discomfort caused by prolonged cuff compression.
- **BP Assessment Indicator** displays the range between which your blood pressure values lie, according to Hypertension Canada & the World Health Organization (WHO).
- **Detects Irregular Heartbeat**
- **BIOS Averaging** averages the last 3 readings.
- **Wireless Connectivity** connects for simplified measurement history tracking.

This device is easy to use and has been proven in clinical studies to provide excellent accuracy. Before using the BD537, read this instruction manual carefully and keep it in a safe place.

The blood pressure monitor meets the accuracy requirements of Hypertension Canada and has been tested for clinical accuracy.

1.2 Important Information

Refer to the following sections to learn about important safety instructions and how to take care of the BIOS Diagnostics™ Blood Pressure Monitor - ECG.

1.2A Safety Information

- Self-measurement means control, not diagnosis or treatment. Your values must always be discussed with your doctor or a physician who is familiar with your family history.
- If you are undergoing medical treatment and receiving medication, consult your doctor to determine the most appropriate time to measure your blood pressure. Never alter the dosages of any medication without direction from your doctor.
- Individuals with serious circulation problems may experience discomfort. Consult your physician prior to use.
- Your blood pressure depends on several factors, such as age, gender, weight and physical condition. It also depends on the environment and your state of mind at the time of measurement. In general, your blood pressure is lower when you are asleep and higher when you are active. Your blood pressure may be higher when recorded at a hospital or a clinic and may be lower when measured in the relaxing comfort of your home. Due to these variations, we recommend that you record your blood pressure regularly at home as well as at your doctor's clinic.
- Try to record your blood pressure regularly at the same time of the day and under the same conditions. This will help your physician detect any extreme variations in your blood pressure and thus treat you accordingly.
- Morning Hypertension (>130/80 mmHg): Several studies have identified elevated cardiovascular risks (heart failure, stroke, angina) associated with "morning hypertension". There is a typical rise in blood pressure during the physiological changes from sleep to arising for the day.
- The ideal time to measure your blood pressure is in the morning just after you wake up, before breakfast and any physical activity, and in the absence of the urge to urinate. If this is not possible, try to take the measurements later in the morning, before you start any physical activity. Relax for a few minutes before you record your blood pressure.
- The cuff should not be applied over wounds as it may cause further injury.
- **Do not** attach the cuff to an arm being used for IV infusions or any other intravascular access, therapy or an arteriovenous (A-V) shunt. The cuff inflation can temporarily block blood flow, potentially causing harm to the individual.
- The cuff should not be placed on the arm on the side of a mastectomy. In the case of

- a double mastectomy, apply to the least dominant arm.
- Be aware that pressurization of the cuff can temporarily cause loss of function of simultaneously used monitoring equipment on the same limb.
- A compressed or kinked connection hose may cause continuous cuff pressure resulting in blood flow interference and potentially harmful injury to the patient. Ensure connection hose is free of kinks or bends prior to use.
- Your blood pressure increases or decreases under the following circumstances:
- Blood pressure is higher than normal:
 - When you are excited, nervous, or tense
 - While taking a bath
 - During and after exercise or strenuous physical activity
 - When it is cold
 - Within one hour after meals
 - After drinking tea, coffee, or other caffeinated drinks
 - After smoking tobacco
 - When your bladder is full
- Blood pressure is lower than normal:
 - After consuming alcohol
 - After taking a bath
- The pulse display is not suitable for checking the frequency of heart pacemakers.
- If you have been diagnosed with a severe arrhythmia or irregular heartbeat, vascular constriction, or liver disorders, measurements made with this instrument should only be evaluated after consultation with your doctor.
- Measuring too frequently can cause injury to the patient due to blood flow interference. Ensure enough time has passed between subsequent readings.
- Take care while handling the batteries in the device. Incorrect usage may cause battery fluid leakage. To prevent such accidents, refer to the following instructions:
 - Insert batteries with the correct polarity.
 - Turn off power after use. Remove and store the batteries if you are not planning to use the device for an extended period of time.
 - **Do not** mix different types, brands, or size of batteries. This may cause damage to the product.
 - Do not mix old and new batteries.
 - Remove batteries and dispose of them according to the proper regulations in your area.
 - **Do not** disassemble batteries or expose them to heat or fire.
 - **Do not** short-circuit the batteries.
 - **Do not** use rechargeable batteries.
- **Do not** touch the electrode(s) of this product to other conductors (including grounding).
- During ECG measurements, if your skin or hands are too dry, please moisten them with a damp towel. Then implement measurement.
- Finger skin that is damaged and/or bleeding may result in incorrect readings, or no measurement at all. Please replace the measurement finger with another and try again.

- During ECG measurements, please do not use the product in its reversed direction, swapping the left and right hands.
- This device is not intended to be used, and therefore should not be used in the presence of pacemakers.
- This monitor has not been validated for use on pregnant patients, or those with diabetes.
- The performance of the device may be affected by extreme temperature, humidity, and altitude.

1.2B Care of the Device

For prolonged life of your blood pressure monitor, note the following instructions:

- **Do not** drop or bang the unit. Prevent sudden jerks, jars, or shocks to the device to prevent damage.
- **Do not** insert any foreign objects in any device openings or vents.
- **Do not** disassemble the unit.
- If the unit has been stored at very low or freezing temperatures, allow it to reach room temperature before use.
- **Do not** store the unit in direct sunlight, high humidity, or in places with a lot of dust.
- Clean the device with a soft dry cloth. Do not use gasoline, thinner or similar solvents. Carefully remove spots on the cuff with a damp cloth and soap.
- **Do not** wash the cuff.
- **Do not** use the device if you think it is damaged or if anything appears unusual.
- Ensure that children do not have access to this device unsupervised; some parts are small enough to be swallowed.
- Using the unit in the immediate vicinity of mobile phones, microwave appliances or other devices with strong electromagnetic fields may result in impaired functioning.
- **Do not** use this device close to strong electromagnetic fields, such as mobile telephones or radio installations.
 - Keep a distance from such devices when using this unit.

1.2C Comparing Readings to Other Blood Pressure Devices

Many questions arise when two blood pressure devices are compared in an effort to check accuracy. An accurate comparison requires repeatable measurements under the same conditions to a "reference device" with known accuracy. Significant time is required to reduce naturally occurring blood pressure variability during the test. The subject should be seated comfortably with feet flat on the floor, and have rested for 5 minutes before the first reading to allow blood pressure levels to stabilize. The patients back, elbow, and forearm should be supported, and the middle of the cuff should be at the level of the right atrium. There should be no talking or moving during the measurement and if comparing to an aneroid gauge or mercury column, observers should avoid parallax and be careful not to round measurements.

The most accurate way to compare devices is to take two readings at the same time. However, most people and doctor's offices do not have the equipment necessary to measure blood pressure from two devices simultaneously. To take sequential measurements properly requires a pair of initial measurements to determine the subjects blood pressure level: first with the reference equipment, followed by 60 seconds, then with the monitor-under-test. The actual accuracy test requires three pairs of measurements with 60 seconds between measurements. These measurements are averaged and a comparison can be made. Since most people tend to relax and their blood pressure falls with subsequent measurements, following this protocol reduces these natural changes in Blood Pressure levels. The standard technical error of both consumer and professional devices is normally ± 3 mmHg, so a discrepancy of 6 mmHg is acceptable even when the devices are working within their specifications.

Any comparisons without a known "reference device" and not following the procedures described above will yield unreliable results. In addition, to do an accuracy test properly the reference device must also be tested to a known reference to confirm its accuracy, prior to being used as the reference for comparisons.

1.2D Calibration

Digital blood pressure monitors do not require regular recalibration, unless the product has been dropped and internal parts have been damaged. If the unit turns on and does not display an error code, the product is working properly. In extremely rare cases, the cuff may have developed a pin-hole leak, or the gasket where the cuff connector enters the monitor may not have a proper seal; both of these leaking air issues will potentially cause errors in accuracy, but otherwise the product will work accurately without drifting out of calibration.

1.3 What Do Your Numbers Mean?

Blood pressure is the pressure in your blood vessels while blood circulates throughout your body. High blood pressure or "Hypertension" is the pressure at which ones normal average blood pressure is considered too high and other health risks including: heart attack, stroke, dementia, kidney failure, heart disease and erectile dysfunction may occur. It is expressed as two numbers: systolic/diastolic 120 mmHg/80 mmHg (mmHg= millimeters of mercury). "Systolic" numbers refer to the pressure on the walls of your arteries while the heart is contracting and pushing blood. "Diastolic" pressure is the lower number when the heart is at rest and relaxed. A simple way to understand this is to picture a garden hose. When the tap is turned on, the immediate pressure on the walls of the hose is the "systolic" number, and when the tap is turned off it is the "diastolic" number.

There are many different causes of high blood pressure. We differentiate between common primary (essential) hypertension, and secondary hypertension. The latter group can be ascribed to specific organic malfunctions. Please consult your doctor for information about the possible origins of your own increased blood pressure values.

1.4 Normal Blood Pressure Values

When rested, and measuring your blood pressure at home, measurements with diastolic pressure readings above 80 mmHg or systolic readings over 130 mmHg are considered high. If you obtain consistent readings in this range, consult your doctor immediately. High blood pressure values over time can damage blood vessels, vital organs such as the kidney, and your heart. With blood pressure values that are too low (i.e., systolic values under 105 mmHg or diastolic values under 60 mmHg), consult with your doctor.

Systolic	Diastolic	Comment
Below 120	Less than 80	This range is considered "Optimal"
120 - 129	70 - 79	This range is considered "Elevated" or "Pre-hypertension" . Discuss with your health care professional. Lifestyle modifications may be required to avoid advancing into hypertension.
130 - 139	80 - 89	This is in the "Hypertension" range. Discuss with your health care professional. Medication(s) and lifestyle modifications are typical treatments.
140-179	90 - 119	Discuss with your medical professional, medication(s) and lifestyle modifications are necessary to control your hypertension.
180 +	120 +	This is in the "Hypertensive Crisis" range. Consult your doctor immediately, or go to the hospital if you are experiencing any chest pain, shortness of breath, or symptoms of stroke.

Adapted to include new information as outlined in Hypertension Canada's 2025 Understanding and measuring your blood pressure guideline.

Note: A diagnosis of high blood pressure must be confirmed with a medical professional. A doctor should evaluate any unusual blood pressure readings. Additionally, lower targets may be appropriate for some populations such as African-Americans, the elderly, or patients with underlying issues such as diabetes mellitus or chronic kidney disease.

Important for Canadians:

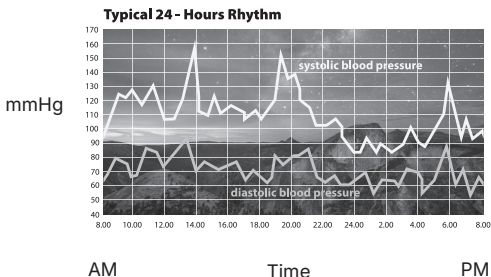
*** Hypertension measured at home $\geq 130/80$**

For further information, see our website www.biosmedical.com.

1.5 Common Blood Pressure Questions and Answers

a) Why is my blood pressure reading always different?

Your blood pressure changes constantly. It is quite normal for blood pressure to fluctuate as much as 50 mmHg throughout the day. Blood pressure is normally lowest at night, but increases during waking hours when the stress and activities of everyday life are highest.



b) Why is the doctor's reading different from the reading taken at home?

Your blood pressure can vary due to the environment (temperature, nervous condition). When measuring blood pressure at the doctor's office, it is possible for blood pressure to increase due to anxiety and tension, this is known as "White Coat Hypertension". Home blood pressure monitoring has been known to predict health outcomes better than office blood pressure measurements.

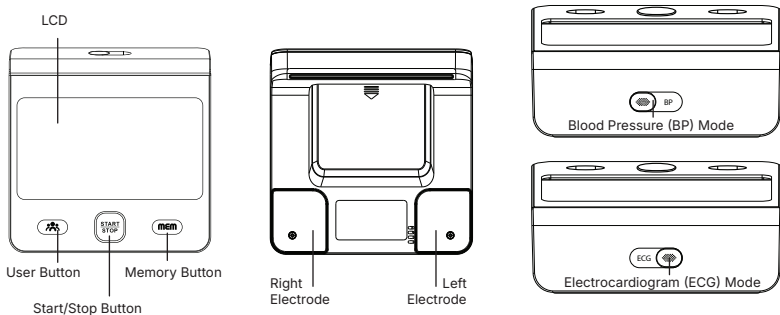
c) Why should I monitor blood pressure at home?

One or two readings will not provide a true indication of your normal blood pressure. It is important to take regular, daily measurements and to keep records over a period of time. This information can be used to assist your physician in diagnosing and preventing potential health problems. Expert opinion suggests patients with normal blood pressure can benefit from one week of measuring every three months.

2. Getting Started

2.1 About the BD537

This section describes the various components of the Blood Pressure Monitor – ECG.

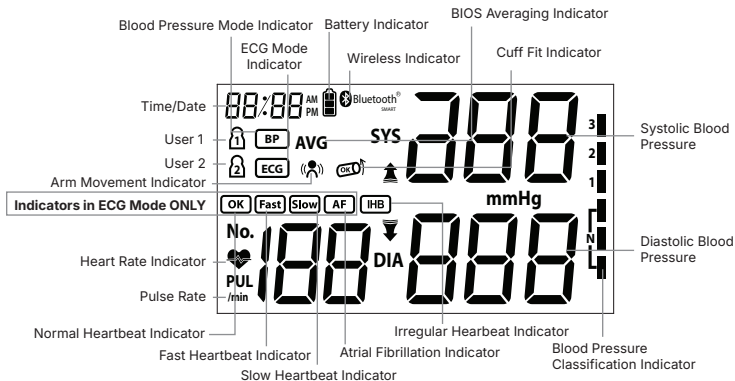


Upper Arm Cuff:

Wide range cuff for arm circumference 22-42 cm (8.7"-16.5")

2.2 About the LCD Screen

The LCD screen displays the systolic and diastolic blood pressure measurements along with your heart rate. It also displays previously recorded measurements and the date and time, when the appropriate button is pressed.

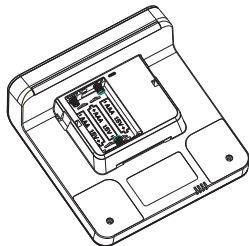


	If the cuff is wrapped incorrectly, it may cause unreliable values. When the  is displayed, the cuff is tight enough. When the  is displayed, the cuff is too loose, and needs to be re-applied.
	Appears when your body moves during a measurement. Remove the arm cuff, wait 2-3 minutes, sit still, and try again.
	Appears when an irregular rhythm is detected during a measurement. If it continues to appear, consulting with your physician is recommended.
	Heartbeat icon appears when a heartrate is detected, and indicates pulse rate within a blood pressure reading.

2.3 Powering the Device

This device is intended to be portable, and therefore powered by batteries. Follow these steps to insert three "AAA" batteries.

1. Open the battery compartment cover in the direction shown.
2. Insert three "AAA" batteries ensuring the correct polarity is followed.
3. Replace the battery compartment cover.

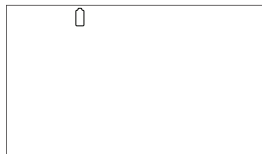


Low Battery Indicator

The unit LCD will display the low battery indicator when battery life is depleted, and the device is unable to inflate the cuff for testing.

The indicator is present for approximately 5 seconds prior to the device shutting off. Replace batteries at this time.

Note: No memory loss will occur during this process.



3. Using the Device

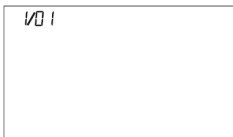
3.1 Setting User, Date, and Time

The monitor stores measurement results automatically after a reading is taken. For accurate memory information, it is necessary to reset the time and date whenever new batteries are inserted.

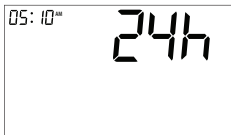
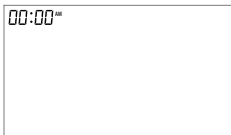
1. With the power off, press the **User button** . The user symbol will flash. You have entered into the settings mode.
2. Use the **Memory button 'MEM'** to select the preferred user, followed by the **User button**  to save the selection.



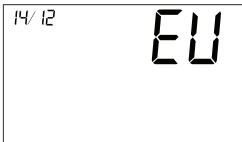
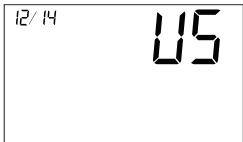
3. Use the same button selection method to then set the Year, Month, and Date. (**Memory button 'MEM'** to select, **User button**  to save selection).



4. Next, set the Time (Hour, then minute), and time display (12 or 24 hour clock). (**Memory button 'MEM'** to select, **User button**  to save selection).



5. The last setting will ask you to select between a North American (US) (month/day) date display, or a European (EU) (day/month) date display. (**Memory button 'MEM'** to select, **User button**  to save selection).



NOTE: At any time while in the settings mode, you can exit by pressing the **Start/Stop button**. All settings made will be saved, and the unit will turn off.

NOTE: If the unit is left on in the settings mode, the device will automatically turn off after 3 minutes. All settings made will be saved.

3.2 Setting the Measurement Type

This device takes both blood pressure and ECG measurements. Depending on the type of reading you want to take, please slide the switch to the appropriate side before turning the unit on.

To change modes please first turn the unit off, slide the switch, then turn the unit back on.



To take a blood pressure reading, the slide should be to the left.



To take an ECG reading, the slide should be to the right.

3.3 Connecting to the Wireless App

For the most up to date information on what Android and iOS operating systems are compatible with the device application please visit: the Apple Store, or the Play Store.

NOTE: Android and iOS system and software updates may render the app obsolete on older devices.

NOTE: BP + ECG is a third-party app. Thermor Ltd. does not own, operate, or control the services provided within the application. Thermor Ltd. is not responsible for the availability, accuracy, legality, security, or content of any third-party application or service, and disclaims all liability arising from or related to their use. Use of third-party services is at the user's own risk and subject to the applicable third party's terms and policies.

Sign Up and Login

- Search for "BP+ECG" in the Android App Store or Apple App Store to download, register, and log in.



Wirelessly Connect

- Follow the directions within the app to pair your device to the machine.
- Ensure that connectivity settings are enabled on your phone before attempting to pair.

Start Measuring

- Once your device is connected follow the app prompts to take a blood pressure, or ECG reading.

Review Readings

- Review your readings in real time.
- ECG measurements include a full waveform displayed within the app.

Download Data

- Save reports to your phone for easy sharing with a healthcare provider.

3.4 Obtaining Accurate Measurements

Your blood pressure can vary based on numerous factors, physiological conditions, and your surroundings. Follow these guidelines to obtain accurate and error-free measurements of your blood pressure and pulse rate.

3.4A Tips on Taking Accurate Measurements



In the morning before breakfast, 2 hours after dinner, before taking medication.



Empty bladder (if necessary).



Avoid coffee and smoking within the hour, and no exercise 30 minutes before measuring.



Rest quietly for 5 minutes. Remain calm and quiet while the measurement is in process.



Do not speak while taking the measurement.



Take measurements on the non dominant arm.



Sit with legs uncrossed so as not to restrict blood flow.



Sit with back supported and measurement arm resting on a table. Sit with feet flat on the floor.



Ensure that the cuff is level with the heart while the arm is supported on the table.

3.4B Common Sources of Error

All efforts by the patient to support the arm can increase the blood pressure. Make sure you are in a comfortable, relaxed position and do not activate any of the muscles in the measurement arm during the measurement. Use a cushion for support if necessary.

ATTENTION!

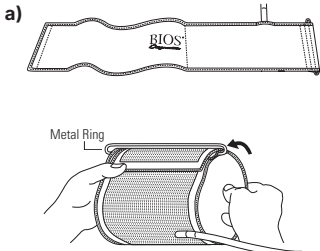
Comparable blood pressure measurements always require the same conditions with a peaceful and calm environment. Ensure that you take measurements under the same conditions to obtain accurate and reliable readings.

- If the arm artery lies considerably lower or higher than the heart, an erroneous value of blood pressure is measured.
- Each 15 cm difference in height results in a measurement error of 10 mmHg.
- A loose cuff causes false measurement values.
- With repeated measurements, blood accumulates in the arm, which can lead to false results. Consecutive blood pressure measurements should be repeated after at least a 45 second pause or after the arm has been held up in order to allow the accumulated blood to flow away.

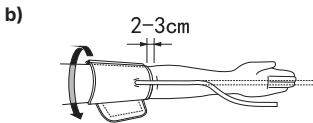
3.4C Fitting the Wide Range Cuff

NOTE: Visit www.biosmedical.com for a video that illustrates how to properly fit the cuff.

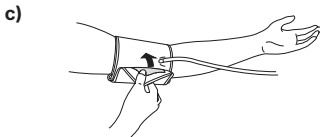
a) Putting the cuff Velcro® side down on a table, the words on the cuff should be facing right side up. Put the end of the cuff (with fastener) through the metal ring, making the cuff a cylinder. (Ignore this step if your cuff is already set up.) Proper assembly allows the Velcro® to match up properly. Measure on your non-dominant arm, unless there is a >10 mmHg difference with the other arm, in which case use the arm with the higher pressure.



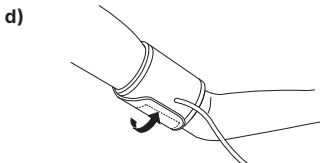
b) Place the cuff around your bare arm. Make sure the bottom edge of the cuff is about 1" (2-3 cm) above the elbow joint. Adjust the cuff so that the rubber tubing under the cuff lies over the brachial artery, which runs on the inside of the arm (see Fig. B).



c) Pull the cuff and tighten it by attaching the Velcro® fastener.

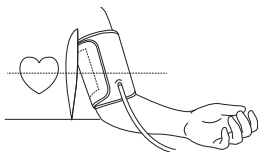


d) The cuff should fit snugly around the bare arm, but not too tight. You should be able to fit two fingers under the cuff. If the cuff is the wrong size, the device will not measure your blood pressure accurately.



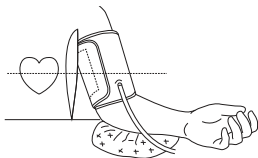
e) Place the arm on the table (palm facing upwards) so that the cuff is at the same level as the heart. Make sure there is no kink in the hose.

e)



f) You can adjust the level of your arm by putting a cushion under your arm. The cuff should be at heart level.

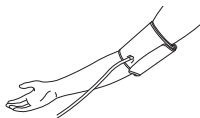
f)



g) Remain seated in a comfortable room temperature for at least 5 minutes, then start the measurement.

h) For those who cannot put the cuff on the left arm, put it on the right arm as shown.

h)



i) More than 6 consecutive measurements will cause blood accumulation in the lower arm which will affect the measuring results. To improve reading accuracy, raise the arm being measured, squeeze and relax your hand several times, then take another measurement. Another option is to take the cuff off and wait at least 5 minutes before repeating measurement.

i)



j) If this device was stored in low temperature, it is necessary to leave it in room temperature for at least 1 hour, otherwise the measurement can be inaccurate.

Comment:

Continue to use the same arm for comparisons. It is not unusual for there to be a difference in blood pressure between arms. Initially, check BP on both arms. If one arm is 10mmHg higher, continue to measure on that arm.

Comparable blood pressure measurements always require the same conditions (relax for several minutes before taking a measurement).

ATTENTION: Do not use a cuff other than the original cuff contained in this kit, or one purchased from the manufacturer!

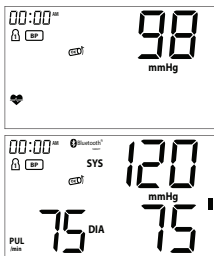
3.5 Measuring Your Blood Pressure



After the cuff has been appropriately positioned and the switch is set to the blood pressure measurement mode, the measurement can begin:

a) Remain seated in a comfortable room temperature location for at least 5 minutes, and then start the measurement.

- b) Press the **Start/Stop button** to start the measurement. The device will quickly complete a self-diagnosis check where all icons on the screen will appear, followed by 1 beep, and the deflation icon  flickering on screen. This ensures the device is prepared for the reading. Once completed, the device will begin to inflate the cuff. Measurement procedure has begun.
- c) The monitor starts measuring automatically during the inflation of the cuff. The heartbeat icon  flashes for every heartbeat detected. Once complete, the pressure releases.
- d) When the measurement has been completed the device will sound 4 quick beeps, and the systolic, diastolic, and pulse rate will appear on the display.



NOTE: If the monitor detects an irregular heart rhythm two or more times during the measurement process, the Irregular Heartbeat Symbol "" will appear on screen along with the blood pressure results. Irregular heartbeat rhythm is defined as rhythm that is either 25% slower or faster than the average rhythm detected while measuring the blood pressure. Consult your physician if this symbol appears frequently.

3.6 Taking an Electrocardiogram Measurement

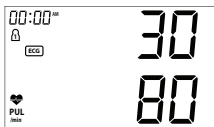
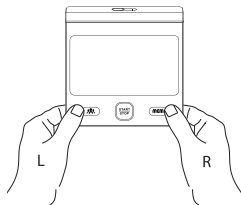
NOTE: The cuff is not required for an ECG measurement.

NOTE: Full ECG waveform data is shown when the device is connected to the wireless app. Please ensure this is done before starting the measurement protocol below.



After the switch is set to ECG measurement mode position, the reading can begin:

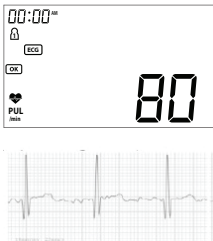
- a) Press the **Start/Stop button** to start the measurement. The device will quickly complete a self-diagnosis check where all icons on the screen will appear, followed by 1 beep. This ensures the device is prepared for the reading. Once completed, the device will await the finger connection.
- b) Place your index fingers securely against the ECG pads on the back of the device. Ensure you have a firm flat finger placement to allow for the signal to stabilize, and the reading to begin.
- c) Once the signal has stabilized successfully, the 5 second countdown on the screen will begin. Make sure to hold still, and keep a firm grasp on the pads for the duration of the measurement.
- d) The ECG measurement has a duration of 30 seconds. You will know the reading has begun once the 30 second countdown has started.



e) During the reading the heartbeat icon  flashes and a beep will be heard for every heartbeat detected. The screen will show the heart rate value.

f) Once the measurement is complete the average heart rate value will be displayed on the screen, along with the general findings indicator of the reading.

g) To view the full ECG waveform, review the wireless app.



Findings Indicator Icon	Insight
	The average heart rate during the reading was between 50 and 100 beats per minute.
	The average heart rate during the reading was greater than 100 beats per minute.
	The average heart rate during the reading was less than 50 beats per minute.
	Indicates that atrial fibrillation was detected during the measurement. *

*** Atrial Fibrillation Indicator:** The device detects irregular RR intervals that indicate atrial fibrillation (AF). Please note, however, that this device cannot be used for diagnosis. The “” symbol indicates that atrial fibrillation was detected during the measurement. If atrial fibrillation is detected during the measurement, the user is advised to take the measurement again. If the “” symbol reappears on the screen, it indicates possible atrial fibrillation, and the patient is advised to seek medical attention. Please note, the diagnosis of atrial fibrillation must be made by a cardiologist.

What is Atrial Fibrillation (AF)?

Under normal circumstances, your heart contracts and relaxes following a regular beat. Certain cells in the heart produce electrical signals, causing the heart to contract and pump blood. Atrial fibrillation occurs when rapid, disordered electrical signals, cause the heart to contract irregularly.

Atrial fibrillation is the most common heart arrhythmia. It usually does not cause any symptoms, but it can increase your risk for stroke. This is why it is important to consult a healthcare provider if the symbol appears frequently on your device.

3.6 Discontinuing a Measurement

While Taking a Blood Pressure Measurement:

To stop the blood pressure measurement (eg. The patient feels unwell) press the **Start/Stop button**. The device will immediately turn off, and automatically decrease the cuff pressure.

While Taking an Electrocardiogram Measurement:

To stop the ECG measurement (eg. The patient feels unwell) simply remove your fingers from the unit. The device will immediately stop the reading. The device can be turned off by pressing the **Start/Stop button**.

3.7 Determining Your “Real” Average Blood Pressure at Home

It is normal for blood pressure to vary significantly in the middle of the day when most people are busy with their daily tasks. Hypertension Canada recommends measuring in the morning and evening to avoid variability. At the end of a measurement, this instrument automatically stores each result, including date and time.



AM

Take: 2 measurements, 1 minute apart

- Empty bladder (If necessary)
- In the morning before breakfast, before taking medication
- Sit with back supported and measurement arm resting on a table. Sit with feet flat on the floor.



PM

Take: 2 measurements, 1 minute apart

- Empty bladder (If necessary)
- 2 hours after dinner, before taking medication
- Sit with back supported and measurement arm resting on a table. Sit with feet flat on the floor.
- Avoid coffee and smoking within the hour, and no exercise 30 minutes before measuring.





RESULTS

Discard Day 1 measurements. Average your day 2-7 measurements

= Average

< 130/80 mmHg = NO

No Hypertension

≥ 130/80 mmHg = YES

Yes Hypertension

***Note:** If the result is “borderline” repeat the series for confirmation. This data can be used by a medical professional to make a diagnosis of Hypertension.

3.8 Recalling the Memory

This monitor automatically stores 150 blood pressure measurements, and 20 electrocardiogram measurements in its memory.

The oldest record will be replaced by the latest measurement value when there are more than the above number sets of data.

While in Blood Pressure Measurement Mode:

- With the device off, press the **Memory button “MEM”**. The average of the last 3 measurements will be shown.
- Continue to press the **Memory button “MEM”** to cycle through individual measurement history with date and time information (1 through 150).

NOTE: When reviewing memory, the date and time will show alternatively. Remain on the reading to see both.



- To cycle through the memories quickly to reach a specific number, press and hold the **Memory button “MEM”**, releasing when you’ve reached the desired range.
- When done reviewing memories, press the **Start/Stop button** to shut the monitor off.

While in Electrocardiogram Measurement Mode:

- With the device off, press the **Memory button “MEM”**. The most recent test result will be displayed.



- b) Continue to press the **Memory button "MEM"** to cycle through individual measurement history with date and time information (1 through 20).
NOTE: When reviewing memory, the date and time will show alternatively. Remain on the reading to see both.
- c) To cycle through the memories quickly to reach a specific number, press and hold the **Memory button "MEM"**, releasing when you've reached the desired range.
- d) When done reviewing memories, press the **Start/Stop button** to shut the monitor off.

Reminder: To see full waveform data, please use the wireless app.

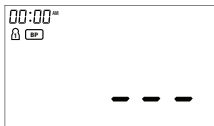
3.9 Clear Measurements from Memory

NOTE: Memory cannot be recovered once it has been deleted.

NOTE: Ensure the correct user has been selected before attempting to delete data.

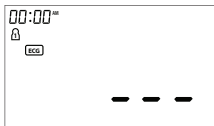
While in Blood Pressure Measurement Mode:

- a) With the device off, press the **Memory button "MEM"** to enter into memory recall mode.
- b) Press and hold the **User button**  for approximately 3 seconds to delete all memory records under the selected user.
- c) When done, press the **Start/Stop button** to shut the monitor off.



While in Electrocardiogram Measurement Mode:

- a) With the device off, press the **Memory button "MEM"** to enter into memory recall mode.
- b) Press and hold the **User button**  for approximately 3 seconds to delete all memory records under the selected user.
- c) When done, press the **Start/Stop button** to shut the monitor off.



3.10 Blood Pressure Assessment Indicator

The bars on the right-hand side of the display show you the range within which the indicated blood pressure values lies. Depending on the height of the bar, the readout value is either within the normal (green), borderline (yellow) or hypertensive (red) range.

The classification is based on standards adopted from the WHO*
 Refer to the charts below for details of the classification.

	SYS (mmHg)	DIA
Red	180 ↑	120 ↑
Red	140-179	90-119
Red	130-139	80-89
Yellow	120-129	70-79
Green	110-119	70-79
Green	↓110	↓70

- 3 ■ Hypertensive Crisis
- 2 ■ Moderate Hypertension
- 1 ■ Mild Hypertension
- Elevated
- N ■ Normal
- Optimal

Adapted to include new information as outlined in Hypertension Canada's 2025 Understanding and measuring your blood pressure guideline.

- If the bar lines up with the first or second green bar, your measurement is in the green zone, or "Normal".
- If the bar lines up with the third bar, it is in the yellow zone, and is considered elevated, or pre-hypertension.
- If the bar lines up with the fourth bar, it is in the red "Stage 1 Hypertension" zone.
- If the bar lines up with the fifth bar, it is in the red "Stage 2 Hypertension" zone.
- If the bar lines up with the sixth bar, it is in the red "Hypertensive Crisis" zone.

4. Error Messages/Malfunctions

Error	Possible Cause	Remedy
Er-1	Cannot detect high or low pressures	Ensure that the cuff is fastened properly before starting measurement.
Er-2	Cuff is loose	Ensure that the cuff is fastened properly before starting measurement.
Er-3	Improper compression caused by arm or body movement	Ensure that both the body and arm are held still for the duration of the measurement.
Er-4	The pressure exceeds 300 mmHg	Ensure that the cuff is fastened properly before starting measurement.
Er-5	The pressure exceeds 15 mmHg for 3 minutes	Check to ensure the cuff tubing is not knotted, or that the vent valve is not blocked.

Er-6	Blood pressure measurements were out of range	Ensure that the cuff is fastened properly, then attempt measurement again.
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If problems occur when using the device the following points should be checked, and if necessary, the corresponding measures should be taken.

Malfunction	Remedy
The machine does not work, even after pressing the Start/Stop button, with batteries installed.	1. Check batteries for correct polarity. 2. Check to see if batteries need to be replaced.
The device frequently fails to measure the blood pressure values, or the values measured are too low or too high.	1. Check the positioning of the cuff and cuff tension. The cuff should be snug but not tight. 2. Measure the blood pressure again, ensuring that you have remained motionless for a sufficient amount of time to ensure an accurate reading.
Device pump is working, but the pressure in the cuff is not rising.	Check that the cuff connector is properly installed into the side of the monitor.
Every measurement produces varying results although the instrument functions normally and the values displayed are normal.	Note that blood pressure fluctuates continuously; therefore measurements will show some variability.
Blood pressure values measured differ from those measured by the doctor.	Record daily measurements for consultation with your doctor. Note: Individuals visiting their doctor frequently experience anxiety, which can result in a higher blood pressure reading than at home.
ECG waveform drift or clutter is large	1. Skin is too dry or greasy - clean skin with soap or water to make it moist and grease-free 2. The electrodes do not have a strong signal/contact with the human body - apply pressure to the electrode 3. Muscle tension - relax the hand during measurement

5. Care and Maintenance

- a) **Do not** expose the device to either extreme temperatures, humidity, dust or direct sunlight.
- b) The cuff contains a sensitive air-tight bubble. Handle this carefully and avoid all types of stress through twisting or buckling.
- c) Clean the device with a soft, dry cloth. **Do not** use gas, thinners or similar solvents. Dirt on the cuff should be removed with a damp cloth and soap. **Do not** put in the washing machine or dishwasher. **Do not** submerge in water.
- d) Handle the tube carefully. **Do not** pull on it. **Do not** allow the tubing to kink and keep it away from sharp edges.
- e) The monitor contains sensitive parts, and should be treated gently.
- f) Never open the monitor. This invalidates the manufacturer's warranty.
- g) Batteries and electronic instruments must be disposed of in accordance with the locally applicable regulations, not with domestic waste.



6. 3 Year Limited Warranty

This BIOS Diagnostics™ blood pressure monitor has a 3 year limited warranty to be free of defects from the date of purchase. Only applicable to the original owner. This warranty does not include the inflation system including the cuff and inflation bladder. The cuff is warranted for 2 years. The warranty does not cover damage from misuse or tampering.

100% Satisfaction Guarantee

If at any time, you are not completely satisfied with the performance of this device, call our BIOS Medical Hotline and speak with a customer service person, who will make arrangements to have the device tested or replaced to your full satisfaction.

If you have questions regarding the operation of your monitor call the
BIOS Medical Hotline: 1-866-536-2289

Should correction be necessary, return the unit with all component pieces. Enclose proof of purchase and \$5.00 for return shipping and insurance.
Ship the unit prepaid and insured (at owners option) to:

THERMOR LTD.

Returns Department
16975 Leslie Street
Newmarket, ON L3Y 9A1
www.biosmedical.com
Email: support@biosmedical.com

Please include your name, return address, phone number, and email address. Thermor Ltd. will test or replace (at Thermor's option) free of charge any parts necessary to correct the defect in material or workmanship.

Please allow 10 days for return shipping.

7. Technical Specifications

Display	LCD Digital Display Size: 118 × 65 mm (4.65" x 2.56")
Blood Pressure Measurement Method	Oscillometric Method
Blood Pressure Pressurization	Automatic Pressurization
Blood Pressure Measurement Range	Systolic: 60 mmHg-260 mmHg Diastolic: 40 mmHg-200 mmHg Cuff Pressure: 0 mmHg-299 mmHg Pulse: 40-180 bpm
Blood Pressure Accuracy	Pressure: ±3 mmHg Pulse Rate: ±5%
ECG Measurement Method	Single-channel ECG
ECG Measurement Range	Bandwidth: 0.67-40HZ Heart Rate: 30-250 bpm
ECG Accuracy	Heart Rate: ±5%
Blood Pressure Memory	2 users x 150 memories with date and time
ECG Memory	2 users x 20 memories with date and time
Power Source	3 x AAA batteries
Battery Life	Approximately 2 months at 3 tests per day
Dimensions	Approx. 128 × 130 × 44 mm (5.04" x 5.12" x 1.73")

Weight	Approx. 462 g (excluding battery)
Cuff Size	22-42 cm (8.7"-16.5")
Operating Environment	Temperature: 10°C-45°C (50°F-113°F) Relative Humidity: 10%-95% Pressure: 800hPa-1060hPa
Storage/Transportation Environment	Temperature: -20°C-55°C (-4°F-131°F) Relative Humidity: ≤93%
Wireless Connectivity	Frequency: 2.4 GHz (2402- 2480 Mhz) Type of Antenna: Built-in onboard antenna Transmission Power: About 3 dbm Transmission Quality: Latency Time <2 seconds, packet error rate <10%



Read the instruction manual carefully before using this device, especially the safety instructions, and keep the instruction manual for future use.



Type BF applied part



Batteries and electronic devices must be disposed of in accordance with the locally applicable regulations, not with domestic waste.

IP21 - Protected against solid foreign objects 12.5 mm in diameter and greater. Protected against vertically dripping water or condensation.



BIOS I Medical
 MANUFACTURED BY / FABRIQUÉ PAR :
THERMOR LTD.
 16975 LESLIE STREET
 NEWMARKET, ON L3Y 9A1
 MADE IN CHINA / FABRIQUÉ EN CHINE
WWW.BIOSMEDICAL.COM
 100% Canadian Owned & Operated
 Propriétaire-exploitant canadien à 100 %